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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

Outgoing  
C0410002  
#4307  
R

June 28, 2013

Ken May, General Manager  
Canyon Fuel Company, LLC  
597 South SR24  
Salina, Utah 84654

Subject: 2012 Annual Report Review Completion, Sufco Mine, C/041/0002, Task # 4307

Dear Mr. May:

The Division staff has completed the review of the 2012 Annual Report. Enclosed is a copy of the review with each reviewer's comments completed on June 28, 2013.

Thank you for your diligence in completing the Annual Report. If you have any questions, please call me at (801) 538-5350.

Sincerely,

Steve Christensen  
Permit Supervisor

SKC/sqs  
Enclosure  
O:\041002.SUF\WG4307\4307 ReviewCompletionLetter.doc



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# Annual Report

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified in the cover letter. During a complete inspection an inspector will check and verify the information.

## GENERAL INFORMATION

Company Name Canyon Fuel Company, LLC

Mine Name SUFCO Mine

Permit Number C/041/0002

Permit expiration Date 2017-05-21

Operator Name Canyon Fuel Company, LLC - Sufco Mine

Phone Number +1 (435) 286-4880

Mailing Address 597 South SR24

Email mdavis@archcoal.com

City Salina

State UT Zip Code 84654

## DOGM File Location or Annual Report Location

Excess Spoil Piles

☐ Required☒ Not Required

Refuse Piles

☒ Required☐ Not Required

Impoundments

☒ Required☐ Not Required

Other:

Certified reports previously submitted

Certified reports previously submitted

## OPERATOR COMMENTS

## REVIEWER COMMENTS



Met Requirements



Did Not meet Requirements

## COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

### Title: RAPTOR SURVEYS

**Objective:** To determine if there are active nest sites and the number of juveniles fledged within 1/2 mile of surface mining activities or areas that may be impacted by subsidence. The surveyor should obtain nest location data from DWR prior to conducting the survey. All data collected should be provided to DWR to update the database.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Volume 1, Chapter 3, page 3-9

Operator Comments

Raptor survey report is included in the annual report confidential information on CD disk.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

Reviewed by Ingrid Campbell 6/24/2012: Tetra tech biologists conducted a raptor use and nest inventory with in the sufco subsidence areas and proposed water supply development in the East Fork of Box Canyon. No active nests were found in the four surveyed subsidence areas. One Golden Eagle and one northern harrier were seen soaring over subsidence area 4. Northern Goshawk vocalization surveys were also conducted although there was only limited habitat in a small portion of subsidence area 3. No visual confirmations or auditory response from Northern goshawks were collected.

Operator Comments

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

**Title: PINES TRACT VEGETATION STUDY**

**Objective:** To determine if longwall mining in the Pines Tract would potentially impact the Link Canyon Trail Columbine. The survey will include the portions of Box Canyon.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Volume 1, Chapter 3, Page 3-22B, page 3-45 A.

Operator Comments

Report is included in the annual report technical data on CD disk. Page 3-22B is now page 3-24 in the MRP.

As quoted in the 2012 Pines Tract Vegetation Study "This study has been on going now since 1999. Under-mining of the Pines tract has been completed. Since the inception of this study no evidence has been found to indicate that the under-mining has had any adverse effect on the Link Canyon Trail Columbine. The under-mining has had some effect on the riparian areas where water sources have been changed, such as Spring "Pines 105". These changes are being mitigated by Canyon Fuel Company. Weather and grazing have had the biggest impact on the vegetative resource. It is recommended that we have learned all we can from this study and that the study be terminated." Sufco will be preparing an amendment to terminate this requirement in the MRP.

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

Reviewed by Ingrid Campbell on April 16, 2013: The Pines Tract Vegetation Study, conducted by Keith Zobell, monitors the health of the Link Canyon Trail Columbine. Monitoring has been conducted annually since 1999. Severe drought conditions and overgrazing continues to have a negative effect on the health and vigor of the columbine. Paired with the hydrologic monitoring reports in this annual report submittal, this study suggests that undermining has had no effect on the columbine overall. Mining has impacted some water sources and associated riparian areas. The Division will evaluate Sufco's request to terminate vegetation studies for the pines Tract when Sufco submits an amendment to do so.

**Title: LINK CANYON PORTAL VEGETATION STUDY**

**Objective:** To determine if there are any impacts to the vegetation surrounding the portal area.

**Frequency:** Annually, June, September and November

**Status:** Ongoing, **Please include a determination regarding the impact of the portals on the area's vegetation.**

**Reports:** Annual

**Citation:** MRP, Volume 1, Chapter 3, page 3-45A

Operator Comments

Reports are included in the annual report technical data on CD disk.

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

Reviewed by Ingrid Campbell on 6/24/2013: The link Canyon portal area was photographed on June 29, 2011, September 8, 2012 and again on November 7, 2012. The portal area seems to be in drought conditions with no water coming from the portal or from the adjacent stream. Ocular estimates of percent plant density were recorded and were very low. Halogeton was sprayed in 2011. The report includes recommendations to reduce the ocular vegetation surveys from three to one survey per year in August.

**Title: SUBSIDENCE MONITORING**

**Objective:** To document the amount of subsidence that has occurred.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Volume 1, Chapter 5, page 5-29

Operator Comments

Report is included in the annual report technical data on CD disk. Subsidence map is included in the annual report maps section on CD disk.

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

An updated subsidence report with a map depicting subsidence contours was included in the annual report. The mine subsidence map accompanying the report shows surface control monuments, overburden contours, subsidence contours, surface tension cracks, and a current outline of the mine. Maps depicting 5 year mining projections and LMU mining progress were also included. Details for subsidence history, dormant and active areas, recent subsidence by area, draw angle surveys, tension cracks, and longwall subsidence profiles were included. Subsidence report is complete and concise (JCO).

**Title: CLIMATOLOGICAL DATA**

**Objective:** Collect climatological data to aid in determining the impact to runoff, stream flow and local springs from mining.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Volume 2, page 7-51E

Operator Comments

Data is included in the annual report technical data on CD disk.

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

Reviewed by Amanda Daniels. Precipitation data for the East Fork of Box Canyon has been recorded from 2004 to 2012 and was submitted in the annual report. Data from the NWS Salina 24E weather station, near the mine surface facility, was submitted as well. The weather station near the mine surface facilities indicate that there was no measurable precipitation between May and June of 2012, with similar precipitation condition from the East Fork of Box Canyon weather station as well. The PHDI for Utah's Region 4 has shown a continuous period of moderate to severe drought from May 2012 to the end of the year. An in depth discussion of climatological data was submitted in the report, including a discussion of stream flow in the Box Canyon area. The report indicates that overall the mine is experiencing dryer than normal conditions, precipitation from 2011 to 2012 was 71% of the normal. A gain/loss study of the South Fork of Quitcupah Creek in October 2012 was included in the annual report, and indicated that for the area study, there were no measurable groundwater-derived contributions to the baseflow discharge, except for two adjacent hillside springs.

#### **Title: WASTE ROCK SAMPLING**

**Objective:** To document chemical characteristics of waste rock and protect surface and groundwater. Quarterly sampling, Number of samples/volume not described. Refer to tables 3 and 8 in the Division's 2008 Soils and Overburden Handling Guide.

**Frequency:** Quarterly, during periods of deposition at the waste rock site.

**Status:** Ongoing

**Reports:** Annual, indicate frequency of sampling (#samples/volume).

**Citation:** MRP, Volume 1, Chapter 3, page 3-45A

#### **Operator Comments**

Results are included in the annual report technical data on CD disk. Frequency is 4 quarterly samples/27,135 tons in 2012.

Reviewer Comments ☒ Met Requirements

☐ Did Not Meet Requirements

Reviewed by Priscilla Burton on 6/9/2013. The waste rock analysis begins on page 212 of the electronic copy of the annual report. The summary table on page 213 outlines the characteristics of the waste. The samples were analyzed by Inter-Mountain Labs, Sheridan WY. The first quarter sample was received at the lab on 2/27/2012. Second quarter was received on 5/2/2012 (high in alkalinity). Third quarter was received on 9/17/2012 (toxic with regard to Boron (54.7 mg/L) and Selenium (0.37 mg/L). Third quarter waste must be kept out the water table and buried beneath four feet of cover. Fourth quarter was received on 12/13/2012. The Permittee commented that the four samples represent 27,135 Tons hauled to the waste rock site in 2012. This volume is impossible to verify, since there is no mention of tonnage hauled or capacity in the quarterly inspections or the annual certification of the waste rock site.

Quarterly waste rock inspection reports were received on 4/9/2012; 6/26/2012; 10/16/2012; and 1/08/2013. The Quarterly waste rock site inspections state the depth of each lift (18 - 24" at a 20-25 degree slope), but do not specify the volume of material brought to the site quarterly. The annual certification by John d. Byars, P.E. states the dimensions of the 5th cell (270 x 340 ft) and that the 5th cell has been started with waste dumped from 10 wheel trucks in piles about 3.5 - 4 ft. high. The capacity remaining at the site is not stated. The design capacity is not stated. It is not possible to confirm the volume of material represented by each sample.

## FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

**Title: COLOR INFRARED PHOTOGRAPHY**

**Objective:** To assess changes in vegetation due to mining. Photos submitted after 2008 must include an analysis between 2008 and current photos to assess changes in vegetation due to subsidence.

**Frequency:** Once every 5 years beginning in 2008.

**Status:** 2008 photos completed, Photos and analysis due in 2013.

**Reports:** Annual

**Citation:** MRP, Volume 1, Chapter 3, page 3-45, Chapter 5, page 5-29

**OPERATOR COMMENTS (OPTIONAL)**

**REVIEWER COMMENTS**

Comments by Ingrid Campbell: Please note that color infrared photos are now available through the state AGRC website. Therefore, the mine is not required to hire a consultant to collect the photography. Please contact me for more details.

## REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Department of Commerce, Annual Report Officers submitted in the Canyon Fuel General Chapter One Appendix 1-1 for Dugout Mine, Skyline Mine and Sufco Mine.

South Fork of Quitchupah Canyon 2012 Hydrologic and Vegetation Studies are included in the annual report technical data on CD disk. Sufco Mine has not received a copy of the 2012 Macroinvertebrate Survey Report to date. A copy of the 2012 Macroinvertebrate Study will be submitted to the Division when the Consultant completes it.

### Reviewer Comments

South Fork Quitchupah Vegetation Study Reviewed by Ingrid Campbell on 6/24/2013: The vegetation within the canyon were sampled in August and October 2012. Several monitoring points were surveyed for riparian vegetation within and outside the proposed subsidence zone. The points outside the subsidence zones will be used as control points for comparison in the futures. Several items were documented at each site including vegetative community, community successional stage, apparent forage trend, estimated forage production, beaver activity, bank condition and erosion rating. Species present were recorded. A photograph was taken at each site.



# MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual subsidence map	Sufco Mine Subsidence Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mine Map	LMU Mining Progress 2012-13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Five-year Projection Map	Plate 5-7v9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements